SBR No. 76/18-19
DATED 01-12-18

Original/Duplicate/Triplicate

CONTRACT CERTIFICATE

(For Other Works)

EE/ELE/Y/BR No. 112/18-19
Dt. 01-12-18

No.1st & Final Bill

Date.....2010

Division: **Electricals (Yelahanka)** Sub-Division: **Electricals**

Bill Received No. Dated Divisional Cash Book Voucher No..... Dated.....

Sub Divisional **Job Code :-008-18-000031**

Schedule Docket No. Head of Account : P –3290 14th Finance. D.R.No.

Name of Work. Providing Street Lights and electrical accessories in ward no 8 Kodigehalli.

Name of Contractor and Full Address:- M/s Technical Manager KRIDL BBMP Bengaluru.

Reference to Agreement No:EE/Ele/YZ/WO/000032/2018-19 Date:- 27- 09 -2018

Certified that the measurements were taken by me on 2562/18-19 and recorded of Pages 256175 to 6192 of measurement Book No 2562/18-19 and that the work is satisfactorily executed.

Assistant Executive Engineer
Byatarayanapura Sub-Division
KRIDL, BBMP, Bangalore

Contractor **Officer-in-charge of work**

Certified that the measurement were taken by me on 28/11/18 and found correct. The work is satisfactorily executed.

Certified that the quantities of materials shown in column 3 of Account have been actually brought to site of the work and the contractor has not previously received any advance on this security. These materials are of and imperishable nature and are all required for immediate use on the work in connection with items for finished work have been agreed upon. A normal agreement signed and executed by the contractor is recorded in the office.

Assistant Executive Engineer (Ele)
BBMP, Bangalore

Sub-Division Officer

II Memorandum of Payment

1)	Total value of work done or supplies made as per account within	Bill = 49,98,100=00
2)	Deduct amount to be held in reserve being .....percent Rs.....	IT 2% 99962=00
3)	" Balance	Seust 1% 49981=00
4)	Deduct Payment:	Cust 1% 49981=00
	a) Amount of previous payment as in the Office Cash Book Voucher No.....Dated.....S.D. No..... Amount	LWC 1% 49981=00
	adjusted towards cash advance recovery of	CBFO 1% 4998=00
	b) Payments Now made } cost store or other material supplied. recovery of amount creditable to this/other work Amount paid on this bill Cheque / Cash.	FBD 7.5% 374858=00
		deductions= 6,29,761=00
5)	Balance being unpaid value of work done held in reserve.	Cheque = 43,68,339=00
6)	Deduct cash advance made on the Office cash Book Voucher No..... dated.....less adjustments.	
7)	Net amount due to or from Contractor unadjustments items.	
8)	Advance to Contractor for materials brought to site (as detailed) within.	
9)	Value of Government materials supplied.	
	Total amount adjusted -	

Contractor's Signature

Received Rs..... (in words).....

.....

by cash and by adjustment of Payment as per memorandum

(in final settlement of all demands)

(For Executive Officer)

Assistant Executive Engineer
Byatarayanapura Sub-Division
KRIDL, BBMP, Bangalore

Witness

1.

2.

Dated Signature of Contractor

Paid by me by Cheque No. Dated

Cash Rs.....

Dated.....Initials of Officer making payment

Stamp

Assistant Executive Engineer
Byatarayanapura Sub-Division
KRIDL, BBMP, Bangalore

ಲೆಕ್ಕಶೀರ್ಷಿಕ P-3290, 14th Finance grants.

ರೂ. 49,98,100=00 ಅಂಕಿಯಲ್ಲಿ ಮೊತ್ತ ಸ್ವೀಕರಿಸಿದೆ

ರೂ. 43,68,339=00 ಚೆಕ್ ನೀಡಬಹುದಾಗಿದೆ

ರೂ. 620,761=00 ಹೊಂದಾಣಿಕೆ ಮಾಡಿದೆ

ಲೆಕ್ಕ ಅಧೀಕ್ಷಕರು ಕಾ.ಬಾ.ಅ.(ವಿ) ಯಲಹಂಕ ವಲಯ

Sl. No	Description of Item	Unit
	Name Of Work:- Providing Street Lights and electrical accessories in ward no 8 Kodigehalli.	
1	LED Street light. Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs. 50000 hr. @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4 KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI 75+. housing with supplier word mark / name shall be engraved / Embossing on the die cast housing / body part. . Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacturer. Suitable for A1/A2 Roads as per IS 1944 Part I & Part II. 90 Watts	Each
2	LED Street light.Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminare > IK08. Power Factor >0.9 with mains Current should not be greater than 0.1A to 0.7A & Surge Protection- Min 4KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED Efficiency>130lm/w at 1W & FixtureEfficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacture. Suitable for B1/B2 Roads as per IS 1944 Part I & Part II.LED Streetlight 65watts	Each
3	Supplying and Fixing of.....mm dia class A GI pipe bracket up to 2 mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires. Using 32mm dia G.I.pipe	Each
4	Wiring for lighting/power circuit using one of PVC insulated 1100v grade stranded **Aluminium** unsheathed wire single core/multi core cable in open or consealed system of wiring. a)4 sqmm.	Each
5	Fixing halogen/ metal hallide /SVL/IL/LED flood light fittings over existing pole/ wall ceiling including clamps bolts nuts and wiring using sitable capacity wires	Each
6	Supplay erection testing & commissioning of Thiristor based single/ Three phase smart street light control and monitoring system Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components	Set

Previous Measurement		Present Measurement			Total Upto Date		Remarks
Qty	Cost	Qty	Rate	Amount	Qty	Cost	
		106	31250.00	3312500.00	106	3312500.00	
		25	18720.00	468000.00	25	468000.00	
		123	893.00	109839.00	123	109839.00	
		295	7.50	2212.50	295	2212.50	
		98	176.00	17248.00	98	17248.00	
		1	51500:00	51500:00	1	51500:00	

7	Supplay and erection of Single phase Thyristor based smart street light control system consisting of following aquipments 1. Precise turn ON & OFF of street lights on pre programmed data 2. 2 x 16 character LCD display unit to display date, status ON Or OFF , turn ON & OFF time, 3. Keypad to set/edit ON & OFF time as per the end user 4. Microcontroller with Real Time Clock and associated hardware 5. 1 No, SCR 162 amps thyristor module for load switching mounted on an extruded alluminium heat sink 6. Thyristor Driver Card: Driver control circuit to switch ON & OFF the Thyristor module 7. Firmware: Firmware to control the hardware and display the required data 8. Power Supply: AC to DC conversion circuit required for the electronic circuitry and driver control card 9. Enclosure is made out of 18 swg CRCA ms sheet of size H480xW310XD200mm with luvers for Heat dissipation IP65 weather proof metal enclosure 10. Wiring & other components like wiring, connectors ,insulators, Alluminium Bus bar and 2 nos of 125 amps single pole MCB for main power Supply control and Manual On & off operation & etc complete.	Set
8	Open Conduit Systeme: Supplying heavy gauge PVC conditpipe,,,,,,,,,, dia confirming to IS 2509 with suitable size bends,junction boxes, adhesibve paste etc., and fixing using inverted wood plugs in case of RCC ceiling and RCC wall stone structure or plug incase of brick walls and cement plastering damaged portionusing heavy gauge saddles at an interval of 700mm using NF screws.c)32mm dia 2.5mm thick	Mtrs
9	Supplying of 1.1KV grade Aerial Bunched Cable Stranded & Compacted Aluminum Phase Conductor, and Stranded Messenger Conductor with all aluminum Alloy, Phase Conductor is insulated with XLPE Compound, insulated Messenger with specified IS-14255:1995 & confirming to GTP of GROUP-A.2 X 25 + 1 X 25 SQ.MM	Mtrs
10	Supplying and stringing of ACSR Conductor (6/2.59mm Al +1/2.59mm Steel).	Mtrs
11	Supplying and Fixing .....including all Hardware's etc. complete as per the standard technical specification of BESCOM. A)1.1 KV Pin Insulator	Nos
12	No. 8 Strain Insulator	Nos
13	Supply and Installation / Fixing / Provision of Pole box with HRC Fuse / MCB provision and suitable connector / terminal for 3 Ph / 1 Ph connections with Loop-In & Loop-Out terminals for 10 Sqmm / 25 Sqmm 3.5 C Al/Ar / Cu/Ar Cable and branch out 2.5 Sqmm 2 core Al/Cu PVC Insulated cable, enclosed in a Thermoplastic, Polystyrene enclosure, which should be shock proof, safe, IP65(Weather Proof), rust proof, dust proof, water proof having Internally Embedded Gasket with provision for cable entry through IP65 Thermoplastic, polyamide glands and/or grommets.200mmx200mmx98mm	Each
14	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) THREE POLE 100Amps25kA.	Each
15	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	Each
16	Supply and fixing of .....cross arm including all Hardware's complete as per the standard technical specification of BESCOM 2 Pin 45x45x5mm -510mm	Nos
17	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A. 4 core 16 sqmm	Mtrs
18	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.In existing trench/duct.6 sqmm to 16 sqmm	Mtrs
19	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) In soil (ordinary)	Mtrs
20	Asphalt cutting	Mtrs
21	Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts nuts washers and wiring etc complete with AC-3 Rating and as per IS-13947 100-125Amps	Nos

		1	31860.00	31860.00	1	31860.00		
		60	100.00	6000.00	60	6000.00		
		98	143.00	14014.00	98	14014.00		
		996	30.00	29880.00	996	29880.00		
		29	44.00	1276.00	29	1276.00		
		10	14.00	140.00	10	140.00		
		11	2178.00	23958.00	11	23958.00		
		11	4044.00	44484.00	11	44484.00		
		70	20.59	1441.30	70	1441.30		
		25	306.00	7650.00	25	7650.00		
		1398	140.00	195720.00	1398	195720.00		
		1398	10.80	15098.40	1398	15098.40		
		200	78.00	15600.00	200	15600.00		
		1000	117.00	117000.00	1000	117000.00		
		2	9915.00	19830.00	2	19830.00		

22	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. 40-63Amps TPN	Nos
23	Supplying and fixing of Twin Dial electro mechanical timer (without contactor) using necessary bolts, nuts and washers etc.. Group A, PWD SR 2007-08,	Nos
24	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper conductor single core wire in open or concealed system of wiring as per IS-694:1990 & confirming to GTP of GROUP -B.1.5 sqmm	Mtrs
25	6Sqmm	Mtrs
	Total Rs	
	Add KRIDL Charges 11%	
	Total Rs	

Certificate: 1. Certefied that the Above Work has been carreid out satisfactorily

Assistant Executive Engineer (Ele)
BBMP, Bangalore

		2	1936.00	3872.00	2	3872.00	
		2	4200.00	8400.00	2	8400.00	
		298	15.90	4738.20	298	4738.20	
		10	53.20	532.00	10	532.00	
				4502793.40		4502793.40	
				495307.27		495307.27	
				4998100.67		4998100.67	